

CLAIMS

1. A spindle unit of a machine tool for mounting a tool or a workpiece pallet on a forward end of a spindle, comprising:

5 a spindle supported by a housing so as be rotatable;

10 a clamping means provided in a hollow portion of the spindle and including a draw bar for engaging the tool or the workpiece pallet and an elastic member for pulling the draw bar rearward;

15 an unclamping means provided at a rear portion of the spindle for pushing the draw bar forward to thereby release the tool or the workpiece pallet; and

20 an oil pool chamber formed in the hollow portion of the spindle to have a closed chamber structure and including bearing portions for supporting the draw bar on both sides thereof to be movable forward and rearward, said bearing portions having substantially the same size so that the volume of the oil pool chamber does not change when the draw bar is moved forward and rearward.

25 2. The spindle unit of a machine tool according to claim 1, wherein the bearing portions comprises a front cylindrical bearing portion (21) for fitting therein a support shaft portion (19) of the draw bar (9) and a rear cylindrical bearing portion (39) for fitting therein a shaft collar (33) fixed on the draw bar (9), and the oil pool chamber is configured such that an inner diameter size of the front cylindrical bearing portion (19) is 30 equal to an inner diameter size of the rear cylindrical bearing portion (39).

35 3. The spindle unit of a machine tool according to claim 1 or 2, wherein the spindle includes at least two passages which provides communication between an outside of the spindle and the oil pool chamber, and the openings of the two passages to the oil pool chamber are formed to be spaced apart from each other at angular interval of

about 180 degrees about a center axis of the spindle.